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Chapter Five

WORK RELATIONS AND FORMS OF PRODUCTION

IN APPLE ORCHARDING

5.1 INTRODUCTION

The purpose of this chapter is to examine the work relations and forms of production in the apple orcharding industry in the period from 1980 to 1994. The focus is on Hawke's Bay which produces more apples than any other region in New Zealand. Analysis is also necessarily industry-wide and country-wide to obtain a wider picture of structure and change. This approach allows account to be taken of significant producers in areas other than Hawke's Bay.

In Chapter 3 I suggested that agricultural production which can be industrialised tends to be dominated by large capitalist enterprises and that family-based producers tend to dominate in farming systems where there is a large discrepancy between production time and labour time (cf. Mann and Dickinson 1978). Therefore, before the analysis of the social relations of production of any farming system can take place, the system of production must itself be defined and analysed. Accordingly the first section of this chapter defines the biophysical basis of production, the labour demands of this system, and the agrocommodity chain for apples. The requirements of this system of production are discussed in terms of work relations and forms of production.

I present the key statistics of the apple industry for the period from 1980 to 1994 in the second section. This includes discussion of the characteristics of apple orchards, production levels, the current expansion of the industry, the structures within which production occurs, how apple growers derive their income and the level of that income, enterprises and forms of production, work relations, geographic structure, and worker per farm ratios at national and county level. The information for this analysis comes from a range of published and unpublished sources. For the discussions of work relations and forms of production, the principal source of the published data is the Census of Agriculture. Apples are not recorded separately from other pipfruit in the Census of Agriculture even though apples account for over 90 percent of all pipfruit. The data from the
Census of Agriculture is for the pipfruit category of farm-type which is *Pipfruit: Growing pipfruit, eg. apples, pears, where 51 percent or more of gross income is derived from this activity*. (This was also the basis of deriving the questionnaire sample with only those farms where more than 50 percent of farm/orchard income was from apple orcharding). The data are from questions on the number, size and type of enterprises, and on employment from 1984 to 1990. Data were obtained for this period as *Pipfruit* only became a separate category of farm-type in 1984, having been included previously in the *Orchards* farm-type. The base data from the employment question are at the resolution of counties.

The information assembled in the first two sections presents a picture of the likely shape of the social relations of production in the apple industry. In the remainder of the chapter I analyse information collected during fieldwork. The aim is to examine the work relations and forms of production which exist in apple growing in the core region of Hawke’s Bay and in Canterbury which has emerged as an important region for the production of apples. The key variables are the provision of labour and the ownership of the means of production although most of the characteristics listed in Table 3.3 are assessed. The two sets of primary information used in this analysis are from a postal questionnaire sent to apple growers in Hawke’s Bay and case studies of the three largest corporate apple producers in the industry. The methods used for the collection of information by questionnaire are described briefly in Section 2.6 and in detail in Appendix C. This appendix also has a copy of the postal questionnaire and the reminder letter.

In Section 5.4 of this chapter I analyse the work relations and forms of production of the orchards which responded to the postal questionnaire. In the following section, I examine the ownership, operational and labour management structures of the case study companies; Eastern Equities Limited (EEC), Grocorp Pacific Limited (Grocop), and Apple Fields Limited (Apple Fields). I then contrast the structure and the social relations of production of the enterprises in the postal sample and the case studies in Section 5.6. In the last section I focus on the continued expansion of apple production and the differential implications of this for the different forms of production in this industry.

### 5.2 APPLE PRODUCTION AND MARKETING SYSTEMS

The production system for apples is relatively uncomplicated, but as Curry pointed out some time ago in reference to pastoral systems of production, familiarity with farming among economic geographers has dulled their wonder at the meanest peasant who accepts as routine the adoption of a program to use seasonally fluctuating atmospheric resources, the supply of which is uncertain (Curry 1963:117, 95). Apple trees are deciduous and generally produce better crops in places where winters are cooler but without spring frosts, where the soil is free-draining, and where there are high hours of sunshine in the summer combined with low humidity and low summer precipitation (Williams 1985). In New Zealand, these conditions are met best in
Hawke's Bay, the Nelson region and coastal Canterbury where the number of rainy days and the amount of precipitation are low during spring, summer and autumn. This results in very low evapotranspiration (Curry 1963).

The natural production cycle of twelve months is longer than the necessary labour time with periods of intense activity being followed by periods of relatively low activity. The variable demand for labour through the production cycle is met by two components. One is an underlying requirement for labour which is satisfied either by the family on those orchards which are owned and operated by families or by a manager or full-time employee on those orchards not operated by families. The other component is the peaks of labour demand where more workers are required for short periods such as pruning and particularly during the harvest (Figure 5.1).

**Figure 5.1 The labour demands associated with the production of apples**

One of the periods of higher labour demand is the main prune which takes place during the winter. Two others are the comprehensive spraying regime which is based increasingly on local micro-climate variability rather than a set program and fruit thinning in early December. Picking of the early varieties begins usually in the first week of February and the harvest is completed by mid-May. The major demand for labour in this production system is during the harvest when the apples need to be picked quickly to enhance quality. Each of these major tasks apart from spraying require labour resources which are beyond the ability of most farm families to supply. Only the smallest orchards do not require external labour other than during the harvest period. To carry out successfully the tasks detailed above, orchardists must monitor climatic conditions and respond as and when necessary in order to produce a saleable crop at the end of the growing season. All this must be done as efficiently as possible in the knowledge that each orchard has similar costs of production and must contain those costs sufficiently to survive and prosper.
The agrocommodity chain for apples is relatively uncomplicated because of limited processing and the overarching role of the New Zealand Apple and Pear Marketing Board (NZAPMB). There are three parts to the agrocommodity chain - the orchards, the NZAPMB and wholesalers and retailers (Figure 5.2). Until 1994, the NZAPMB took ownership of more than 85 percent of all apples and pears at the farm gate. The proportion for 1994 is not known as anyone can now sell apples and pears in the domestic market. The NZAPMB stores or processes, then sells and ships the apples and pears. Returns to growers are adjusted across varieties and growers receive a payment based on a rate per carton. This rate per carton varies by the variety, size and quality of each producer's crop, and the prices obtained in export markets by the NZAPMB.

As sole exporter of New Zealand apples and pears, the NZAPMB has complete control of marketing. It sells directly into the wholesale and distribution systems in the countries to which fruit is exported. As apple and pear growers collectively own the NZAPMB, growers are in control of most of the apple agrocommodity chain. The income received by apple growers will vary considerably from season to season because of the vagaries of the biophysical system of production and demand and supply conditions in overseas markets. These fluctuations are clearly identifiable in Figure 1.4 (Chapter 1) which charts apple prices.

Figure 5.2  Apple production and marketing systems

Source for data on end-use of apple crop: NZAPMB 1993.
5.3 KEY CHARACTERISTICS OF THE APPLE INDUSTRY

The recent expansion in pipfruit exports is substantial. The NZAPMB exported only five million cartons of pipfruit in 1984 and forecast that it will export 15 million cartons in 1995 (Pope 1994). New Zealand now grows 0.6 percent of the world's apples, accounts for 2.6 percent of world trade in apples and exports to over 60 countries - many more than any other exporter (Pope 1994). The emphasis in the apple industry is on production for export with over 60 percent of the annual crop sold as fresh apples in northern hemisphere countries during their winter. The remainder goes to the local market and for further processing into juice and other products (NZAPMB 1993).

Pipfruit producers in New Zealand receive subsidies of about three percent compared to 70 percent for growers in Japan, 48 percent in the European Union, and 23 percent in the United States (Pope 1994). Some subsidy occurs between growers through the partial cross-subsidisation of commodity varieties by premium varieties but this should not be confused with subsidies from government. Apple growers in New Zealand are therefore dependent largely upon the prices received for their apples in overseas markets. It is against this background that I consider the following material on the key characteristics of the industry.

The structure of the apple industry

Apple production occurs primarily in Hawke’s Bay and in Waimea County, both historically and in the recent period of expansion. However, apples are grown throughout most of New Zealand with some regions such as Canterbury developing significantly since 1985 (Figure 1.1). Apples became an important source of foreign exchange by 1914 when growers exported 68,000 cases (Monigatti 1966). This was a big increase on the 5,650 cases exported in 1910 and demonstrates that the industry was well established, even though its contribution to the New Zealand economy was small compared to pastoral production. Marketing at this early stage was by provincial fruit growing associations on a cooperative basis (Monigatti 1966). Government provided assistance with guaranteed payment for exports, and in 1924 passed the Fruit Control Act which allowed for the continuation of the orchard levy (Monigatti 1966). In 1928 the trading section of the Fruitgrowers Federation took over all the provincial selling departments, and over a million cases were exported for the first time (Monigatti 1966). Government took full control of marketing at the outset of World War Two because all fruit had to be disposed of on the domestic market (Sinclair 1971). The total crop exceeded two million cases for the first time in 1939 (Monigatti 1966). Government later established the NZAPMB which took control over all marketing in 1948 (Sinclair 1971). Part of the conditions attached to this power was that the NZAPMB had to accept all fruit which passed grading tests. Sinclair (1971) identified this as a potentially major problem as it is not until the Board actually takes possession of the fruit that it knows exactly how much it has to market. In 1953 the Orchard Levy Act transferred the power
to levy orchardists from government to the Fruitgrowers Federation (Monigatti 1966). Surpluses from the orchard levy boosted returns to fruit growers in poor seasons, and funded some of the investment in the infrastructure of the fruit-growing industry (Monigatti 1966). In 1967, the government made its intention clear to remove the existing price supports for apples (Monigatti 1991).

Government provided many legislative and financial supports for the pipfruit industry in the first 60 years and continues to provide legislative support. However, the fruit growers themselves provided the impetus for the industry, and lobbied government successfully for these types of assistance. This brief history demonstrates, in a practical sense, the role of orchardists and their lobby groups in the real regulation of the New Zealand economy.

The New Zealand pipfruit industry expanded significantly in the 1980s and the early 1990s. The total area planted in apples and pears both doubled between 1980 and 1992. For apples the increase was from 5,904 to 12,283 hectares and for pears from 453 to 995 hectares (Figure 5.3). There are now about 1300 pipfruit orchards in New Zealand and output per orchard continues to increase. Most of this expansion is in apple production with pears accounting for only two percent of pipfruit exports (NZAPMB 1993).

Figure 5.3 Area in apples and pears

Source: Dept. of Statistics, New Zealand Yearbook, various years
The varietal mix of the New Zealand apple crop changed dramatically between 1980 and 1988. (The convention used for defining the season of production in this thesis is the year in which fruit is harvested and marketed. 1980 therefore refers to the 1979/80 season and 1993 to the 1993/94 season). Granny Smith remained the dominant variety as its share of total production increased from 35 percent in 1980 to 41 percent in 1988 (Figure 5.4). The rate of change through the late 1980s was remarkable and by 1994 the newer varieties of premium quality apples, such as Braeburn, Royal Gala and Fuji, underpinned the position of New Zealand as a quality apple producer. The 1994 crop in Hawke's Bay demonstrates these changes in the varietal balance in a relatively short period (Figure 5.5). Granny Smiths accounted for only 22 percent, a similar proportion to Braeburns with 21 percent and Royal Gala with 20 percent. Other countries are also developing and planting these varieties, but they remain a few years behind New Zealand (NZAPMB 1993).

Pipfruit production is dominated by family-based producers although the industry has attracted several large-scale corporate orchardists and urban investment capital since the big expansion began in the 1980s (Monigatti 1991). The expansion is across the board with almost all existing growers increasing the size of their apple orchards as well as replacing what are now considered older commodity varieties such as Granny Smith, Golden Delicious and Harold Red Delicious with the newer premium varieties. The new orchards have the advantage of being planted almost entirely in the newer varieties. The rate of planting and the lag time before full production means that apple production will continue to increase for at least the next few years.

The structure of the industry changed from the mid-1980s with the emergence of several public listed companies as large-scale apple growers. This structural change is making a significant contribution to the switch in the proportions of the export crop from a dominance of commodity varieties to premium varieties because two out of the three corporate enterprises planted premium varieties, almost exclusively. Between them the three corporations now account for over 15 percent of total apple production and a higher proportion of exports. Apple Fields, in particular, is trying to alter the structure of the industry and, in the process, is highlighting the differential forms of production that exist in the industry. Apple Fields questions three elements of the NZAPMB role. First, it objects to the second-tier levy which the Board imposes on new growers like Apple Fields or those other growers who expanded their production. The Board justifies the levy by saying that more storage facilities are required for the expanding crop, and those who are expanding their crop should pay more towards the establishment costs of these facilities. Second, Apple Fields wants an end to the cross-subsidisation of commodity varieties of apples by premium varieties because Apple Fields produces only premium varieties. The Board uses a degree of cross-subsidisation to assist orchardists as they replant or graft new varieties to shift their orchards towards production of premium varieties. Third, Apple Fields wants the export monopoly of the Board removed so that it can export its own apples.
Figure 5.4 Changes to the varietal mix of the New Zealand apple crop

1979/80
- Dougherty 4%
- Delicious 5%
- Others 12%
- Golden Delicious 10%
- Sturmer Pippin 10%
- Cox’s Orange 7%
- Red Delicious 15%
- Granny Smith 35%

1983/84
- Others 17%
- Granny Smith 37%
- Golden Delicious 9%
- Sturmer Pippin 7%
- Cox’s Orange 7%
- Red Delicious 24%

1987/88
- Gala 5%
- Royal Gala 8%
- Braeburn 9%
- Cox’s Orange 11%
- Granny Smith 41%
- Red Delicious 27%


Note: The size of the pie charts is proportional to the total crop for 1979/80 and 1983/84 but only for the exported crop in 1987/88. Thus, there is no “others” category for the 1987/88 year.
In Chapter 4, I developed the concept of periods of dominant ideology and the real regulation process to help explain the political economy of agriculture in New Zealand. The NZAPMB is an important remnant of the previous and long-standing ideology of significant government support for agriculture. In contrast, Apple Fields Limited, one of the three large corporate apple growers now in the industry, is operating in the vanguard of the new ideology of market liberalism, particularly when it is recognised that the company is working in conjunction with the New Zealand Business Roundtable in its efforts to initiate deregulation of producer marketing boards. Apple Fields has entered this industry at a time (the mid-1980s) when it was almost totally dominated by family farmers, many of whom were long term participants in the industry. These family farmers own the NZAPMB (paradoxically, alongside Apple Fields, EEC and Grocorp Pacific) through their right to supply (a basic principle of cooperation). Yet it was those longer term participants, the family farmers, who developed the industry’s assets among which are the premium varieties of apples. This argument can be extended to suggest that Apple Fields, which had no development role in the industry, is using free-rider tactics by not having invested in this development and by now insisting that it be allowed to take advantage of the higher profit opportunities offered by a concentration on premium varieties. It is possible that the very success of growers involved in apple production is threatened by the enterprises attracted to the industry. Many commentators consider that total deregulation of the powers of the NZAPMB will be to the disadvantage of the vast majority of growers (Cartwright 1993; Mackey 1993; Moran, Blunden and Bradly 1994; NZAPMB 1992, 1993; Sage 1993). When viewed from the other side of the fence, Apple Fields has developed a strategy to take advantage of a business opportunity which it identified.
Enterprises and forms of production

In 1990, nearly one quarter of all the farms defined by farm-type as being horticulture or orchards were pipfruit orchards (Department of Statistics, unpublished table). Most pipfruit orchards are between four and 40 hectares (Figure 5.6). The only indicator of types of ownership which is available in the Census of Agriculture is the classification of farms by legal status. In 1990 three of these categories accounted for 98 percent of all pipfruit orchards: individuals owned 35 percent, partnerships 30 percent and registered private companies 13 percent. Trusts, registered public companies and cooperatives owned the remainder which amounted to two percent in total. The four other classifications, government, local bodies, state owned enterprises and others, were not involved in pipfruit orchard ownership in 1990.

Figure 5.6 Pipfruit orchard numbers and size in 1990

Source: Department of Statistics, unpublished table.

The proportion of farms in each type of legal status changed between 1984 and 1990, a period when the total number of pipfruit orchards increased by over 90 percent from 761 to over 1400. The number of orchards owned by individuals increased by over 85 percent, those owned by partnerships increased by 141 percent, those owned by private registered companies increased by 14 percent, and those owned by trusts increased by 50 percent. In terms of relative increases, the proportion of pipfruit farms owned by individuals or by trusts were unchanged (Figure 5.7). Private companies became a relatively less popular structure for orchard enterprises during this period. The number of partnerships increased by more than the general rate of increase because
ordinary partnerships, at that time, offered a more advantageous tax structure because members could write-off up to $10,000 per annum of orchard development expenditure against other income. These partnerships could have a maximum of 25 people. Off-farm investors as well as orchardists took advantage of this tax regime to invest in apple orchards, and in the process, contributed significantly to the massive increase in the number of orchards (Monigatti 1991).

Figure 5.7 Legal status of orchards in the pipfruit farm-type

![Chart showing legal status of orchards over years]

**Source:** Department of Statistics, unpublished table.

As noted in Chapter 4 limitations in the accuracy of the Department of Statistics classifications of legal status for interpretation into different forms of production must be recognised. The categories are broad definitions which could all be theoretically either family-based producers or capitalist producers. In reality, my fieldwork in Hawke's Bay found that most of the categories represent family enterprises. All the individuals in my sample were owner-operators, all the trusts were family trusts and 75 percent of these were operated by the family, over 75 percent of private companies were family businesses, and over 75 percent of the partnerships were husband and wife partnerships where the family operated the orchard.

**Work relations in the pipfruit industry**

The employment question in the Census of Agriculture offers some insights into the work relations in pipfruit orcharding, and indicators of changes to the structure of the pipfruit work force. Pipfruit workers are analysed, first in aggregate, and then by the five categories by which information is collected in the Census of Agriculture: working owners, leaseholders and
sharemilkers, unpaid family workers, permanent full-time workers, permanent part-time workers, and casual workers. Full-time is defined as working 30 hours or more per week and part-time is less than 30 hours per week. The identification of these categories with different types of agrarian workers in the typology of agrarian work relations was explained in Chapter 4 and set-out diagrammatically in Figure 4.12. Working owners and unpaid family workers can only exist on family farms while waged workers can be employed on either family farms or capitalist farms.

The total number of workers in the pipfruit farm-type increased by slightly less (83 percent) than the number of orchards (90 percent). Casual workers remained the most numerous type of worker in the industry even though the percentage fell from 57 to 50 percent between 1984 and 1990 (Figure 5.8). Casual workers are employed primarily in the picking season from early February to early May. The percentages of working owners and unpaid family workers were little changed, so the decline in the percentage of casual employees was balanced by an increase in the proportion of permanent workers. Between them, working owners and unpaid family workers make up less than 24 percent of the labour force on pipfruit orchards according to this data. In reality family workers provide more than 24 percent because they work longer hours than wage workers and workers who are employed for only the harvest cannot be compared to family workers who work on the orchard throughout the year. However, this relatively low proportion of family labour means that these family-based enterprises have weak linkages in respect of the criteria of simple commodity production, as the family supply most of the labour in Friedmann's conceptualisation.

The number of orchards with working owners increased by 84 percent between 1984 and 1990. Not surprisingly, all the categories of working owners increased substantially - full-time males increased by 61 percent, full-time females by 68 percent, part-time males by 184 percent, and part-time females by 86 percent (Figure 5.9). The 125 percent increase in part-time working owners was double the increase by full-time working owners. This indicates that there were relatively more pipfruit orchards using part-time working owners in 1990 than in 1984.

The number of orchards using unpaid family labour increased by 91 percent, a similar figure to the increase in the number of orchards with working owners (Figure 5.10). Full-time unpaid workers increased at nearly double the rate of part-time unpaid family workers, the opposite compared to working owners. Relatively more pipfruit orchards were using part-time unpaid family workers in 1990 than in 1984. Put together, these trends for full-time and part-time workers indicate that relatively more work was being done by unpaid family workers in 1990 than in 1984.
All categories of full-time workers increased. The number of farms employing full-time labour was up 49 percent and the number employing part-time workers was 28 percent higher. The per-farm increases are significantly greater than these increases as total male and female full-time employment is up by 160 percent in the 1984-90 period and total male and female part-time is up by 69 percent, both much higher than the increase in the number of farms with those types of workers. Full-time permanent job growth therefore exceeded part-time by a factor of 2.5:1 from 1984 to 1990. The data for full-time and part-time workers are graphed in Figures 5.11 and 5.12 respectively. The increased production from maturing orchards and the increasing number of larger orchards account for this change.
Figure 5.9  Pipfruit: Working owners

Source: Department of Statistics, unpublished table.

Figure 5.10  Pipfruit: Unpaid family workers

Source: Department of Statistics, unpublished table.
Figure 5.11  Pipfruit: Full-time workers

Source: Department of Statistics, unpublished table.

Figure 5.12  Pipfruit: Part-time workers

Source: Department of Statistics, unpublished table.
The number of farms employing casuals increased by 30 percent, much less than the 90 percent increase in the number of pipfruit orchards over the same period. Male casual workers more than doubled (1276 to 2569), equalising the number of male and female casual workers. This indicates that a masculinisation process occurred (Figures 5.13). In fact, this change in the gender balance of the labour force engaged in pipfruit production is evident across the whole data set, except for working owners for whom the gender ratio remained similar to the 1984 figure.

Figure 5.13 Pipfruit: Casual workers

The substantial expansion of the pipfruit industry between 1984 and 1990 resulted in an increase in both male and female full-time jobs in the industry. Part of this increase is due to the increased production as the apple trees grew. The increases in the size of existing and new orchards account for the difference between the higher increases in full-time workers and the lower increases in the number of orchards employing workers. The proportions of the two generically different types of workers, family and waged, remained remarkably unchanged over the 1984-1990 period and possibly indicates that there was little change in the structure of enterprises in this industry.

The regionalisation of pipfruit production: workers and farms at county level

The production of pipfruit expanded substantially during the 1984-90 period in all regions (Figure 1.1, Chapter 1). The regions producing the largest quantities of pipfruit are listed in
Table 5.1 in terms of the number of orchards with owner-operators and the number of orchards with full-time wage workers in 1990. The established pipfruit regions such as Hawke’s Bay and Nelson Bays expanded substantially, but the biggest relative increases in the number of orchards occurred in regions where production was previously on a much more limited scale. These large relative increases do not bring any of the smaller pipfruit-growing regions such as Canterbury, Clutha-Central Otago, Marlborough and Bay of Plenty up to anywhere near the scale of production of Hawke’s Bay and Nelson Bays. The percentage increase in the number of orchards in Hawke’s Bay and Nelson Bays was in the 50 to 60 percent range, amounting to absolute increases of 123 and 61 orchards respectively. This overshadows the massive relative increases recorded for Bay of Plenty, for example, of 450 percent which amounts to only nine farms (an increase from 2 to 11 in the period) or the 480 percent increase for Northland from five to 29 farms.

The localisation within this already distinctive regionalisation of pipfruit production becomes very clear when the data is disaggregated to county level (Table 5.2). In general, pipfruit production is concentrated in one county of each region. Hawke’s Bay County and Waimea County account for 98 percent of the Hawke’s Bay and Nelson Bays regions respectively. Even where apple production is not as concentrated, the majority of production in each region was in only two or three counties. For example, Rodney (54) and Waitemata (51) counties have 87 percent of Auckland’s orchards, and Hurunui (18), Paparua (13) and Waimairi (20) account for 74 percent of production in Canterbury.

The relations of production involved in the increased levels of production vary in the different counties. Hawke’s Bay, Tuapeka and Waimairi have similar increases for both categories of worker, family and waged, 56 and 53, 60 and 67, 33 and 38 percent respectively. Most counties demonstrate large increases in owner-operators while showing significantly smaller increases, or even a decline, as in the case of Waitemata, for full-time employees: Waimea 49 compared to 6, Rodney 145 to 13, Waitemata 46 to -29, Marlborough 175 to 129 and Waikato 82 to 43 percent. Family farms are the dominant type of enterprise in these localities.

Vincent, Tauranga and Paparua exhibit shifts in the opposite direction with percentage increases for owner-operators being 173, 225 and 550 respectively compared to much greater increases for the number of orchards with wage workers (250, 900 and 1600 respectively). These increases are off very small bases (8, 9 and 11 ranking in terms of number of orchards with owner-operators and 11, 9 and 3 for number of farms with full-time employees respectively). These data demonstrate that these are new and rapidly-expanding counties for pipfruit production, and possibly demonstrate that different work relations from owner-operator are being instituted in these new counties - wage workers rather than owner-operators.
### Table 5.1  Regions producing the most pipfruit

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### Full-time workers

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Table 5.2 Counties producing the most pipfruit

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</tr>
<tr>
<td>Waikato</td>
<td>17</td>
<td>31</td>
</tr>
<tr>
<td>Tuapeka</td>
<td>20</td>
<td>32</td>
</tr>
<tr>
<td>Hawke’s Bay</td>
<td>211</td>
<td>329</td>
</tr>
<tr>
<td>Waimea</td>
<td>134</td>
<td>200</td>
</tr>
<tr>
<td>Waimairi D.C.</td>
<td>35</td>
<td>51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Full-time workers</th>
<th>Number of farms with full-time wage workers</th>
<th>Changes between 1984 and 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1984</td>
<td>1990</td>
</tr>
<tr>
<td>Paparua</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Tauranga</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Vincent</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Marlborough</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Tuapeka</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>Hawke’s Bay</td>
<td>107</td>
<td>164</td>
</tr>
<tr>
<td>Waikato</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Waimairi D.C.</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Rodney</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Waimea</td>
<td>95</td>
<td>101</td>
</tr>
<tr>
<td>Waimairi D.C.</td>
<td>21</td>
<td>15</td>
</tr>
</tbody>
</table>

Pipfruit orcharding has a quite specific regionalisation centred on Hawke's Bay and Waimea counties. The production of pipfruit nearly doubled in these favoured growing areas during the period from 1984 to 1990. From the data reviewed here it appears that family farmers were mostly responsible for the expansion. However, some new localities in the South Island demonstrated spectacular growth from previously low or non-existent bases, and appear to be founded more on wage labour than family labour. It is likely that these orchards are also based on urban investment capital. The presence of Apple Fields makes an impact on this data in the counties close to Christchurch.

**Preliminary conclusions on work relations and forms of production**

As a production system, apple orcharding is based on biophysical systems and requires a seasonally-variable labour supply to deal with the discontinuity between production time and necessary labour time. Casual workers are used to manage the biggest hump in labour demand during the harvest period in February, March, April and May. On orchards where over 50 percent of farm income derives from pipfruit, a permanent full-time worker is required for the basic activities necessary for apple production. On the majority of orchards owned and operated by families, these workers are provided by the family, and in other cases by an employee or manager. There is little option but to hire extra workers during the periods of intense work such as pruning, thinning and harvesting. Because of this necessity and because both capitalist producers and simple commodity producers hire from the same labour markets, there is appears to be more scope for capitalist producers in this industry compared to others where the family can provide almost all the labour requirements throughout the production cycle.

This analysis of data from the Census of Agriculture indicates that apple orchards in the newer localities use relatively more wage labour than those in the traditional apple-growing areas. The conclusions to this data analysis are loaded with "may be", "possibly" and "probably". This demonstrates the fragility of the Census data and the need for empirical quantification. But it does provide a good view of the regionalisation of the apple industry and the structure of the labour force. Another important point from this data is the relatively small amount of family labour which is used in apple production - less than half.

The indicators of the work relations and forms of production in the pipfruit industry provided so far in this chapter leave several questions to be answered:

a) Are family farmers in the apple industry simple commodity producers?

b) How do the non-farm partnerships based on urban investment capital operate and what form of production are these partnerships?

c) How do the large companies operate and what form of production do these constitute?

d) What are the implications of the existence of different work relations and forms of production for the apple industry?
The owners of 43 orchards in Hawke's Bay completed the postal questionnaire. (The methods used to for the postal questionnaire are detailed in Appendix C). Most were from the area close to Hastings where the biggest concentration of apple orchards can be found, some were from Esk Valley to the north, and some from south of Waipawa and Tikokino in Central Hawke's Bay (Figure 5.14). This sample represents nine percent of the targeted population of apple growers in this area. The orchards in the sample are divided into seven classes based on the 1993 crop estimate for 1994 production by the NZAPMB. Class intervals of 10,000 cartons of apples are used in the analysis of this sample with the first class being 5,000 to 14,999 cartons and the seventh and highest class 65,000 and over. Each class is referred to by its mid-point, for example, the 5,000 to 14,999 class is referred to as the 10,000 class. The seventh class is referred to as the over 65,000 class. Scale of production is used here to specify the class intervals because it is a useful stratification device which relates to the literature, where a higher scale of production is often associated with capitalist or industrialised production.

Figure 5.14 Hawke's Bay

Source: Department of Geography, University of Auckland.
Sample production estimates are multiplied by a factor of ten to allow visual comparison with the population profile in Figure 5.15. Sample orchards are under-represented in the 30,000 and 40,000 estimates and over-represented in the 50,000, 60,000 and over 65,000 classes. The mean 1993 crop estimate for the population less the sample is 19,877 compared to the sample mean of 22,382 cartons. The orchards operated by EEC and Grocorp, the two large corporate apple growers in Hawke's Bay, are excluded from the population and both these averages. In this section, this analysis of the social relations of production is unpacked into the three levels specified Moran, Blunden and Greenwood (1993) - intra-farm relations, inter-farm relations and external relations. In some cases, such as for work relations, some of these levels are combined.

Figure 5.15  Apple crop estimates: (population-(sample+EEC+Grocorp)) versus sample

Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke's Bay.

Intra-farm relations 1: Types of enterprise

The sample includes five different types of enterprise. Seventeen orchards are operated by couples in partnership, 12 by family limited companies, six by private investor partnerships, five by owner-operators, and three by family trusts (Figure 5.16). There is no way of knowing if these proportions of types of enterprise reflect the population. The range of orchard production varies between 5,000 and 120,000 cartons with some relationships between the types of enterprise and the level of apple production (Figure 5.17). Individual owner-operators are found at lower levels of production (less than 10,000 cartons). Couples operating orchards as partnerships, the most numerous type of enterprise, produce in the low and middle ranges between 5,000 and 75,000 cartons. The production of orchards organised as private limited companies ranges from 10,000 to 120,000. The production range of family trusts and partnerships of private investors are between 15,000 and 50,000 cartons. The production range expands for all types of enterprise when the forecast maximum production for each orchard is graphed in the second part of Figure 5.17.
The types of enterprise in this sample are differentiable also by their establishment date. All the orchards established before the 1980s were family-based enterprises, either family companies, couples in partnership or owner-operators. The most marked changes in the 1980s and early 1990s were the big increase in the number of orchards owned and operated by couples in partnership, the presence of a type of enterprise new to the industry - private investor partnerships, and a decline in the relative popularity of private companies. Different reasons were important for each type of partnership becoming more common, a formalisation of women’s roles in farm businesses and the tax breaks available to investors, respectively.
In considering whether these orchardists are simple commodity producers it is an important distinction whether or not family members who work together in the enterprises owned by the family actually consider these enterprises to be family enterprises. Respondents were asked whether they considered their orchard business to be a family business. Thirty-two of the 37 enterprises owned by families considered that they operated family businesses. The other five, who produce between 5,000 to 45,000 cartons, did not think that they were family businesses. In two of these households, the man worked more hours through the year off the orchard than on it, and their on-orchard work was limited to management and administration. The other three are owner-operators, one of whom disliked the idea of family members working together. The other two did not consider themselves as constituting a family business but gave no reasons.

Intra-farm relations 2 and External relations 1: Work relations and pluriactivity

The work relations of the orchards in the sample are differentiable by the use or non-use of family workers. While members of the family provide some of the labour in the family orchard, this is not conceptually possible on the orchards owned by the partnerships of private investors,
except in the case where one of the investors is also the orchard manager. It is possible for the opposite to occur whereby family-owned orchards use no family labour.

The average age of male owners was 53 years. For women owners the sample size was 29, and their average age was 49 years. Typically, each family has either two or three children, but some have none and some have five. Family members work on all the family-owned orchards except for one. Children provide some labour on 16 of these orchards. An average of 72 hours per week is provided by family members throughout the year. The full-time/part-time differentiation as used in the Census of Agriculture is used here to classify full-time and part-time workers. Twenty-three men and thirteen women work full-time and nine men and 11 women work part-time (Table 5.3). The full-time male workers provide an average of 50 hours of work for 50 weeks of the year, while the part-timers supply 14 hours per week on average. The 13 women who work full-time average 39 hours per week throughout the year, and those who work part-time (11) average 12 hours per week.

A total of 30 children participate in work on the orchards to some degree. The nine who work full-time average 43 hours per week throughout the year and those that are part-time average 11 hours per week. These part-timers usually work during school or university holidays and work full-time during these periods. The ratio of full-time to part-time working owners in this sample is 1.8:1 compared to 2.8:1 in the data from the employment question in the Census of Agriculture for 1990 for Hawke's Bay (Dept. of Statistics 1992, unpublished table). The ratio of working owners to unpaid family workers in the sample is 7:1, nearly twice the corresponding ratio in the Census data. Only seven people in the sample are unpaid family workers - one full-time man, one full-time women, two part-time men, one part-time woman and two part-time children. The contribution by unpaid family workers to these enterprises is low and does not conform very well to the concept of simple commodity production.

Table 5.3  Full-time and part-time family workers

<table>
<thead>
<tr>
<th>Number of orchards with</th>
<th>Male</th>
<th>Female</th>
<th>Child 1</th>
<th>Child 2</th>
<th>Child 3</th>
<th>Child 4</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full-time</strong></td>
<td>23</td>
<td>13</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>46</td>
</tr>
<tr>
<td><strong>Part-time</strong></td>
<td>9</td>
<td>11</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td><strong>Provide no labour</strong></td>
<td>5</td>
<td>13</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>37</td>
<td>37</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke’s Bay.
For the family-owned and operated orchards, it is the ratio of family workers to non-family workers that is of significance because of the importance attached to this variable in the literature (Ghorayshi 1986). There is a wide range of ratios in this sample, from zero where no family labour is used, to 25:1 where almost all labour is provided by the family. The total number of hours worked by each type of worker including contractors and a ratio of family to non-family workers is presented in Table 5.4. Using the total number of hours worked provides a more accurate picture of the actual contribution of the different workers compared with the categories of full-time, part-time, and casual. The highest ratios of family to non-family labour, in fact wherever the ratio is 1:1 or greater, are in orchards owned and operated by couples in partnership who both work on the orchard. These orchards are of fairly modest production of up to 20,000 cartons. Greater production than this would necessitate the hire of more workers external to the family.

Table 5.4 Ratio of family labour to non-family labour

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Range of production (cartons)</th>
<th>Numbers and types of enterprise</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0 (no family labour)</td>
<td>11,000 to 49,000</td>
<td>10 orchards use no family workers:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 are partnerships of private investors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 are family limited companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 is a couple in partnership</td>
</tr>
<tr>
<td>0.1 to 0.2</td>
<td>6,000 to 120,000</td>
<td>11 orchards are in this category:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 single owner-operators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 couples in partnerships</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 private family companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 trusts</td>
</tr>
<tr>
<td>0.3 to 0.4</td>
<td>9,000 to 74,000</td>
<td>8 orchards are in this ratio range:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 owner-operator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 private family companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 couples in partnership</td>
</tr>
<tr>
<td>0.5 to 0.6</td>
<td>6,000 to 25,000</td>
<td>7 orchards are in this category:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 private family companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 couples in partnership</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 owner-operator</td>
</tr>
<tr>
<td>1.0 to 25:1</td>
<td>5,000 to 21,000</td>
<td>7 orchards are in this category:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>six couples in partnership</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 trust</td>
</tr>
</tbody>
</table>

Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke’s Bay.
There is no pattern to the types of enterprises or the size of production in the ratio ranges from 0.1 to 0.2, 0.3 to 0.4 and 0.5 to 0.6. There are only 14 orchards which have a ratio of 0.5:1 or higher where family labour is greater than non-family labour. Many of the family-owned orchards in this sample are therefore dependent on non-family labour. However, the important factor is the nature of the work which is performed by the different types of workers. The family labour takes care of all the everyday tasks which require a flexible response - the base component of orchard labour. The wage workers come to the orchard for specified periods to do specified jobs. The extent of their commitment is limited to earning a cash income and not to the reproduction of the orchard.

The labour used by orchards in the sample is differentiable into those orchards which use family labour and those which do not. The private investor partnerships are in the second category as are two of the other family-owned orchards where the owners provide no labour input to the enterprise apart from investment decisions. For the second group, there is an entirely different orchard management structure consisting of a manager and employees. This contrasts with the family owned and operated orchards which have a work force consisting of the owner-operators, family workers (most of whom are paid wages, but a small number of unpaid workers and employees who make-up anywhere from five to 95 percent of the orchard work force.

Another characteristic differentiating forms of production is the use of external labour markets by simple commodity producers. Pluriactivity occurs on only 12 orchards in this sample. This low amount is not surprising given that the sample excludes all orchards where apples do not constitute more than 50 percent of farm income. The range of production of the family owned and operated orchards that have pluriactive workers was from 5,000 to 45,000 cartons with ten out of the 12 producing less than 20,000 cartons. There is a clear association between lower levels of production and pluriactivity in this sample.

The amount of pluriactivity by men varies between 30 and 70 hours per week through the year, and for females between 25 and 40. Ten men and three women are pluriactive (Figure 5.19). All three women earn wages in their pluriactivity compared to only two out of the ten men, the rest being self-employed. In only one case do both partners participate in pluriactive work, and in this instance each work only limited hours on the orchard business (the man works 20 hours per week and the woman five). The income earned through pluriactivity is considered very important in seven of these twelve cases and important in another three (Figure 5.20).

*Intra-farm relations 3 and External relations 2: Family finance and other finance for orchard purchase*

The literature suggests that simple commodity producers are able to undercut the market cost of farm finance by making use of family sources of finance (Friedmann 1978b; Lem 1988).
Figure 5.19  Pluriactivity in the Hawke’s Bay sample

![Bar chart showing hours per week in pluriactive work for men and women.](chart)

Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke’s Bay.

Figure 5.20  Importance of pluriactivity in the Hawke’s Bay sample

![Bar chart showing importance of pluriactivity for men and women.](chart)

Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke’s Bay.

Respondents were asked to give the sources of finance for orchard purchase or development and the proportions of finance obtained from each source (Figure 5.21). The choice of sources given in the questionnaire were own money, banks, family, private investors, partnerships, vendor finance or other. Six of the sample did not provide the proportions of each, leaving the sample size at 37. All these six were either couples in partnership (2) or family limited companies (4), and
indicated that their sources of finance were either own money, banks or family. *Bank borrowing* is the most common source of finance for private investor partnerships, while *own money* was the most common for owner-operators, family trusts, and husband and wife partnerships. *Banks* and *own money* were of about equal importance as a source of finance for family limited companies. The contrast between the partnerships of private investors and the rest is quite marked, as *banks* provided the bulk of finance for the partnerships of private investors, and *own money* was the largest source for the orchards owned by families. It is surprising that families are not an important source of finance for the family-owned orchards as this is posited as one of the ways in which simple commodity producers can undercut the market costs of farming. The high proportion of their own money means that the orchard is in many cases the major asset of the family. This provides a different basis for decision-making than does the investments by non-farmers using primarily money from the banks, as decisions regarding the orchard are made on the basis of the orchard as both home and enterprise rather than as an investment only.

**Figure 5.21** Relative proportions of sources of finance for orchard purchase or development

![Figure 5.21](image)

*Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke's Bay*
**Inter-farm relations 1: Labour and machinery exchange**

Family farmers can also undercut market costs through the exchange of labour and machinery. While these transactions are not commodified through the exchange of money, the exchanges are reciprocated over time (Lem 1988). Respondents were asked if they participated in labour and/or machinery sharing. The responses are differentiable by type of enterprise with only one out of the six (17 percent) partnerships of private investors participating compared to 21 out of 37 or 57 percent of family-owned orchards (Figure 5.22). This case is where one of the investors is the manager of the orchard belonging to the partnership as well as an owner-operator in his own right.

In most cases, the estimated savings were small with four enterprises indicating that they saved little by participating in the exchange of labour and machinery. Fifteen others estimated that they saved less than $5,000 (Figure 5.23). It is the smallest orchards which save the most through these exchanges (Figure 5.23). The largest orchards which participate gain little. This could imply that those orchardists who have the equipment necessary for a larger scale of operations tend to make it available to smaller orchardists. But it is more likely that the owners of the smaller orchards share labour and equipment among themselves as most respondents said that the sharing was reciprocated.

**Figure 5.22** Participants and non-participants in labour and machinery exchange by enterprise

<table>
<thead>
<tr>
<th>Number of orchards</th>
<th>Participants</th>
<th>Non-participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Couple in partnership</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Family limited company</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Family trust</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Owner-operator</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Private investor partnership</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*n = 43*

*Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke's Bay.*
Inter-farm relations and cooperation and the role of the NZAPMB

I discussed cooperation as a way of organising marketing in these industries in Chapter 4. Apple growers in New Zealand join together in the marketing of apple exports through the NZAPMB. As growers participate in this arrangement because of legislation, it is necessary to discover what these orchardists thought of the cooperative nature of the industry. Respondents were asked whether or not they wanted the NZAPMB to remain as the sole exporter of New Zealand apples. All respondents said that single-desk selling is beneficial to the industry as a whole. Recent surveys by the NZAPMB of apple growers in Hawke's Bay and Nelson indicate that support for the single exporter status of the NZAPMB is very high - between 95 and 100 percent (Pope 1994).

Respondents were also asked what they thought of Apple Fields Limited, and of Apple Fields' actions against the NZAPMB. Nine out of 47 did not reply to the question (Table 5.5). Thirty-two of the 38 who replied were quite definite that Apple Fields' litigation against the NZAPMB was detrimental to the industry. All these growers support the concept of a single-desk seller, that is, they see no advantage to the industry in independent marketing of the export crop by enterprises such as Apple Fields. Most of these replies also complained that it is costing the NZAPMB - and ultimately themselves - a lot of money to respond to the litigation. Four respondents thought that Apple Fields’ actions were good for the industry in the sense that it kept the industry more efficient by keeping the NZAPMB on its toes (Table 5.5).
The replies are listed in full in Appendix J. One respondent said that Apple Fields' actions are a natural part of the development of a successful industry. My interpretation of this comment is that the industry is attracting enterprises which can see ways of exploiting existing structures to make profits. A reading of the Apple Fields' annual reports clearly identifies their strategy. From the beginning, Apple Fields set-out to plant only premium varieties with the stated aim that major gains would accrue to the company if it was successful in removing or lessening the NZAPMB policies of cross-subsidisation, second-tier levies and single-desk selling. I return to these issues in the following sections.

Table 5.5 Summary of views of respondents on Apple Fields’ attacks on the New Zealand Apple and Pear Marketing Board

<table>
<thead>
<tr>
<th>Type of reply</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>No reply to the question</td>
<td>7</td>
</tr>
<tr>
<td>Respondent questioned the relevance of the question</td>
<td>2</td>
</tr>
<tr>
<td>Strongly opposed to Apple Fields' action</td>
<td>32</td>
</tr>
<tr>
<td>No complaints if Apple Fields follow the existing rules</td>
<td>1</td>
</tr>
<tr>
<td>NZAPMB is not perfect and Apple Fields keeps it on its toes</td>
<td>4</td>
</tr>
<tr>
<td>Apple Fields' actions are a natural development in a successful industry</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
</tr>
</tbody>
</table>

Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke’s Bay.

Note: The four questionnaires which were only partially completed are included in this sample.

Conclusions from the postal questionnaire of apple orchards in Hawke’s Bay

Judging by the criteria used to analyse the orchard enterprises in this postal sample, two different types of enterprise can be identified. One includes all the partnerships of private investors and those family-owned orchards where the owners do not participate in the production process and use the orchards purely as investments. The other group are simple commodity producers who own and operate their orchards. They use family labour, mostly themselves as owner-operators, throughout the annual production cycle and employ wage workers during the seasonal peaks of activity, principally pruning, thinning and picking. For the smaller orchards the use of wage labour occurs only in the picking season and then to a limited degree. The provision of some of the necessary labour by the family and the ownership of the orchard enterprise by the same family differentiates these enterprises from the capitalist form of production. The simple commodity producers use strategies which are not available to the capitalist producers. These include unpaid family labour, labour and machinery exchange
although the latter is relatively unimportant, pluriactivity, and non-market sources of orchard finance to a limited extent. Each owner-operator utilises these strategies to differing degrees which depend on family life cycle, other job skills, access to family money, and the scale of orchard operations.

In the partnerships of private investors and those family-owned orchards where the owners do not participate in the production process, ownership of the enterprise and the provision of labour is separate and represents capitalist relations of production. The work force on these orchards consists of salaried managers, effectively wage workers as argued in the development of the typology of work relations, and the workers these managers employ. The partnerships of private investors consist of (mostly) urban investors who are in the industry for either long-term profits or have benefited from the tax write-offs which were available. In most cases it is for both reasons. It is a similar situation for the families who own orchards but participate only in investment decisions.

It could be argued that many of these strategies are used in a minor way by these family-owned orchards, and that the evidence produced in this section does not allow these enterprises to be considered as simple commodity producers. In many cases, family labour is less than half the total labour requirement of the orchard, only a small amount of unpaid family labour is utilised, the use of family finance by this group is marked but consists principally of the capital of those immediately involved in the orchard, and the exchange of labour and machinery is low in terms of the percentage of farm revenue that it represents. Two responses can be made to these arguments. The first is that each strategy may not mean much on its own but when taken together they provide a wide range of adjustment strategies and ways of lowering the costs of production vis à vis capitalist production. The second response is that the key differences between the two types of enterprise, the combination of household and enterprise versus ownership and work by different classes, entails a different commitment to the operation of the orchard. For simple commodity producers the motivation for work is the existence or otherwise of their home and enterprise. This provides simple commodity producers with a different set of incentives.

5.5 CORPORATE APPLE GROWERS IN HAWKE'S BAY AND CANTERBURY

There are three components to the population of apple growers in Hawke's Bay - those in the postal sample, Eastern Equities Corporation (EEC) and Grocorp Pacific Limited (Grocorp), and the population minus the others (Figure 5.24). The relative shares of Hawke's Bay apple production of these different groups puts them into perspective. EEC and Grocorp are by far the largest producers of apples in Hawke's Bay. In fact, the 43 enterprises in the sample from the postal questionnaire produce only 65 percent of the apple crop which EEC and Grocorp harvest. Apple Fields is the other corporate apple grower considered here. This company's orchards are
located close to Christchurch in the South Island. Apple Fields, EEC and Grocorp are public-listed companies whose shares are traded on the New Zealand stock exchange. EEC was the largest apple producer in 1993/94, followed by Apple Fields and Grocorp (Table 5.6). In terms of market capitalisation, all three companies are second-line stocks and were capitalised to a value of around $25 million in mid-November 1994 (Table 5.6). The share price of EEC more than doubled between June 20 and November 15 1994 to take it above Apple Fields and Grocorp in terms of market capitalisation. All three companies are involved in other activities besides apple orcharding. It is essential to know the characteristics of management and corporate structures, production regimes and the development paths of these companies to be able to compare them to the orchards in the Hawke's Bay sample. The discussions below of each company also provide a sketch of the different stages of the production chain of the apple industry and highlight the seasonal nature of activity.

Figure 5.24 Different population components and their proportions of the apple crop

![Bar chart showing the estimated 1994 crop proportions]

Sources: NZAPMB, pers. com.; Blunden; 1993/94 postal questionnaire of apple growers in Hawke's Bay.

Table 5.6 Apple production and market capitalisation of EEC, Grocorp and Apple Fields

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EEC</td>
<td>1,099,000</td>
<td>966,135</td>
<td>427,000</td>
<td>495,168</td>
<td>$11,000,000</td>
<td>$25,522,800</td>
</tr>
<tr>
<td>Grocorp</td>
<td>400,000</td>
<td>600,000</td>
<td>298,000</td>
<td>450,000</td>
<td>$26,500,000</td>
<td>$23,850,000</td>
</tr>
<tr>
<td>Apple Fields</td>
<td>1,025,000</td>
<td>1,400,000</td>
<td>666,000</td>
<td>575,000</td>
<td>$26,650,000</td>
<td>$23,985,000</td>
</tr>
</tbody>
</table>

Source: The production data is compiled from the annual reports and half-yearly reports of each company. As such, they are in some cases optimistic but sufficient information is given in the table to identify the scale of operations of each company.
Based in Hastings, EEC is a diversified corporation with its roots in the rural-based industries in the Hawke’s Bay region. It now has only a small investment in deer farms which was the focus of the company when it first listed on the stock exchange in 1985 as Eastern Deer Corporation Limited. EEC has a reasonably broad shareholding structure although the eight largest shareholders control over 50 percent of the shares (Figure 5.25). Overseas ownership is less than one percent of shares. According to the 1992 annual report, apples accounted for about 45 percent of EEC revenue and transport accounted for more than half.

**Figure 5.25  EEC corporate structure**

The big expansion by EEC into apples occurred in October 1992 when EEC purchased Limnos Investments, a subsidiary of Lanes Industries Limited, which was in turn a subsidiary of Brierley Investments Limited. Limnos Investments owned and operated eight apple orchards in Hawke’s Bay. EEC now owns and operates 12 orchards (Table 5.7). It farms 330 hectares in Hawke’s
Bay and produced more apples than any other enterprise in the region during 1993. This amounted to over seven percent of total production in Hawke's Bay and four percent of total production in New Zealand (EEC Annual Report 1993). As well, some land is used for growing grapes under contract to Corbans and some land is in kiwifruit. The company's Tikokino orchards in Central Hawke's Bay are only six or seven years old and produced a substantial crop for the first time in 1991. This location was chosen because the company already owned the land through its previous focus on deer farming and sheep feedlot operations. EEC also have their own nursery for replanting and grafting stock. EEC have a pack-house and an associated 5,000 bin coolstore for their own use during the harvest. It is the company's intention to shift to a graduated packing system where packing is done from coolstore bins as demand requires. EEC will pack half this crop in this state-of-art plant at their headquarters at Whakatu and the other under an existing three-year rolling-contract with Johnny Appleseed Limited, a nearby pack-house.

Table 5.7: Integration of Limnos Investments Limited into Eastern Equities Corporation

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of orchards</th>
<th>Total area planted (ha)</th>
<th>Area in apples (ha)</th>
<th>Area in other crops (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hastings - existing EEC</td>
<td>2</td>
<td>31</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>Hastings - Limnos</td>
<td>7</td>
<td>221</td>
<td>199</td>
<td>22</td>
</tr>
<tr>
<td>Sub-total</td>
<td>9</td>
<td>252</td>
<td>221</td>
<td>31</td>
</tr>
<tr>
<td>Tikokino EEC</td>
<td>3</td>
<td>125</td>
<td>125</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>377</td>
<td>346</td>
<td>31</td>
</tr>
</tbody>
</table>

Source: Eastern Equities 1992 Annual report

EEC supports the retention of the single-seller status of the NZAPMB and the possibility of niche marketing providing that it does not upset the marketing plan of the NZAPMB:

EEC Horticulture in endorsing the current export selling system for apples and pears is also committed to improving its own information base as regards customer requirements (Annual Report of EEC, 1992:10).

This position was restated in EEC's annual report of 1993.

EEC has a relatively large proportion of commodity varieties in its orchards because it purchased existing orchards with the incorporation of Limnos investments (Figure 5.26). Each orchard has a manager and one or two permanent staff. The managers are responsible for the orchards and are relatively autonomous. They are salaried and can realistically expect to earn a bonus of up to 15 percent (Scotland, pers. com.). Up to the 1993 picking season, each manager was responsible for hiring workers for their orchard. A different method is now in place whereby the labour used in
the 1993 picking season was rated with a view to employment in the following season. Key personnel return each year for the beginning of hand thinning which starts on November 1, and remain through the picking and packing season until the second week of May. All these key personnel, who number approximately 60, work on a piecework basis although almost all are paid in the form of wages rather than as self-employed workers. Only two of them are genuine contractors - they are given a block and a price and it’s up to them how quickly it gets done.

Quality control is handled by the orchard managers. A good worker can make 50 percent more than the average rate so there is real incentive to perform (Barker pers. com.). EEC policy is to not to use contractors although with the increased crop to come in future years, it may be the only way to achieve a successful harvest as the potential supply of labour in Hawke’s Bay for harvesting and packing is thought to be approaching its maximum (Barker pers. com).

Prospective casual workers for harvesting and the packhouse are interviewed after newspaper advertisements in January.

**Figure 5.26** Varietal mix of EEC apple crop

The peaks in picking and packing occur in the eighth and ninth weeks of the season when the Granny Smiths start coming on while all the reds are still in full swing. At this stage the EEC pack-house handles up to 1000 bins per day. It runs an eight hour shift followed by a fly shift of four or five hours. The work force numbers between 60 and 75 from the beginning of November when the thinning begins. This is the core work force upon which the horticultural business depends and these workers are given continuity of work when possible. Once the picking is under way, the number of pickers increases to between 200 and 300 through to May. Many of

Source: *Annual Reports of Eastern Equities Limited; pers.com., Eastern Equities Limited.*
them then move onto the kiwifruit harvest. In addition, 120 full-time seasonal workers are employed in the pack-house from mid-February through to the second week of May.

There is a clear gender division of labour in the apple industry, and the EEC work force exemplifies this (Figure 5.27). All the managers and supervisors are men, as are 90 percent of the permanent full-time orchard work force. In contrast, 60 to 70 percent of pack-house staff are women, although the supervisors are all men. No-one who works for EEC belongs to a union. According to company representatives, because nobody (neither the company nor the workers) wants them interfering.

Figure 5.27  EEC work force and gender divisions of labour

![Diagram of EEC work force and gender divisions of labour]

Source: Annual Reports of Eastern Equities Limited; pers. com., Eastern Equities Limited.

The timing of the purchase of Limnos investments probably could not have been worse for EEC. The Limnos orchards were bought when apple prices were at historic highs and the decline in returns for the 1993 season reflect this. EEC recorded a 1.5 million dollar loss on a greatly expanded apple crop compared to a $500,000 profit the season before (Scotland pers.com.). This emphasises the unpredictable nature of primary production whereby, in this season, apple orchardists' production efforts (whether the orchardist be a simple commodity producer or a capitalist producer) can be thwarted by high production in other countries resulting in an overall over-supply in export markets. Even though orchards are managed efficiently, little can be done to control the final price received, especially when the exporting of apples is undertaken by a statutory monopoly.
Grocorp Pacific Limited

Grocorp is controlled by Japanese interests through a 50 percent shareholding by Sanyo Corporation. Overall, the shareholding is tightly concentrated with the six largest shareholders owning 92.56 percent of all shares. In addition, 87 percent of the issued share capital appears to be owned by overseas interests (1992 Annual Report). As well as participating in primary production, it is a major exporter of produce to Japan. Grocorp also exports citrus and apples from Australia to Japan, kiwifruit to Australia from New Zealand, squash to Japan from New Zealand (Grocorp is New Zealand's biggest exporter of squash), and ice cream to Japan from New Zealand (NZ Herald, 21/7/93:3:1/2). The company said that it was not interested in entering the local apple market initially (NZ Herald, 21/7/93:3:1/2), but it does want to export apples to Japan and south-east Asia and is seeking cooperation with the NZAPMB in accessing the Japanese market (NZ Herald, 21/7/93:3:1/2). The two parts of the company's business are apparent in its corporate structure, with the marketing arm based in Auckland and the production arm in Hawke's Bay.

Grocorp now owns over 400 hectares of land in Hawke's Bay, the majority of which is planted in apples. All the apple orchards are located in Central Hawke's Bay near Waipawa, Tikokino and Poukawa. Grocorp developed all of them in the last ten years and most of them in the last seven years. Grocorp now grows little kiwifruit compared to the early 1980s when it was heavily involved in the expansion of that fruit at Kerikeri and in the Bay of Plenty. Grocorp has resolved to sell its remaining kiwifruit orchards in the Bay of Plenty (Grocorp 1993). It is also a stated aim of the company to diversify away from its reliance on apples and squash, and Grocorp has already invested significant amounts in asparagus production (Grocorp 1992). This was augmented in 1993 with a joint venture to develop another 25 acres of asparagus (Grocorp 1993).

Grocorp expected to ship 398,000 cartons of export apples in the 1994 season out of a total crop of 513,979. This would be an export pack-out of over 77 percent, a very high proportion compared to the industry average and that of the sample orchards. This high ratio results mostly from the company developing its orchards in only the recent period. Grocorp's varietal mix is accordingly dominated by the newer premium varieties with only very small amounts of Granny Smith, Harold Red, Hawke's Bay Red, and Regala varieties. In fact, Braeburn, Fuji and Royal Gala varieties make-up 83 percent of the crop (Figure 5.28).

Grocorp employs over 400 mostly local people at the peak of the picking and packing season. Figure 5.29 shows the management hierarchy, the production layout and the allocation of the work force in Grocorp's apple production. There are about 30 permanent full-time salaried workers and 90 percent of these are men. Incentive payments are not available to the men who manage the Grocorp apple orchards. Grocorp provided information on their gender division of
Figure 5.28  Varietal mix of Grocorp apple crop

Source: Annual Reports of Grocorp Pacific Limited.

Figure 5.29  Work-force involved in Grocorp apple production

labour for one randomly selected week in each of the 1992 and 1993 picking/packing seasons. Men made-up 68 percent of all orchard workers in 1992 and 74 percent in 1993. The pack-house work force consisted 78 percent of women in both years. The pack-house is an integral part of the business as all the company's apples are packed here. Grocorp also packs another 150,000 cartons of apples grown by other producers.

As for EEC, the large decline in apple prices in the 1993 selling season and the bad weather resulted in a loss for the Grocorp horticulture division. Exports amounted to only 298,000 cartons. This was slightly down on the 1992 figure and represented only 50 percent of potential total output.

Apple Fields

In the primary sector, Apple Fields is principally involved in dairying where it operates 35 farms and horticulture where it operates 17 apple orchards (Figure 5.30). In addition, Apple Fields has planted 1800 truffle-yielding seedlings, and aims to produce 30 kilograms per year by 1996 (Apple Fields 1992). Apple Fields, as a corporate entity, has its roots in the development of apple orchard partnerships adjacent to Christchurch by the Kain brothers and associated interests in the mid-1980s. Thirty-six orchard partnerships based on three orchards were the basis of the public offer of shares and the subsequent listing of Apple Fields Limited on the New Zealand stock exchange in late 1986. The Kain brothers retain effective control over more than 35 percent of the issued shares and between them all the directors effectively control more than 65 percent of the issued shares, according to the Apple Fields Annual Report of 1993.

Figure 5.30  Number of dairy farms and apple orchards owned by Apple Fields

Source: Annual Reports of Apple Fields Limited
Apple Fields is a diversified corporation organised in five divisions which reflect its major activity units: horticulture, dairying, investments, corporate services, and finance. Its horticulture division has four components - the companies which own the land on which the orchards are located, the companies which own the buildings and machinery of the orchards, Canterbury Orchard Services which manages the orchards for the partnerships, and Apple Fields Packing Centre which packs the fruit under contract to the partnerships. Canterbury Orchard Services and Apple Fields Packing Centre are owned 100 percent by Apple Fields.

In terms of profits, the importance of each division to the company varies considerably with the returns from apples (pay-outs from the NZAPMB) and dairy products (pay-outs from the New Zealand Dairy Board). This emphasises the impact on enterprises of the variability in the prices received for agricultural produce. Figure 5.31 shows the profit performance of the horticulture division relative to turnover in that division since 1990. The impact of low prices in export markets during the 1993 selling season was dramatic, resulting in a loss of $467,000.

Figure 5.31 Profit performance of Apple Fields horticulture

![Profit performance of Apple Fields horticulture](image)

Source: Annual Reports of Apple Fields Limited.

Note: Activities of the horticulture division are apple orchard development, management (of the orchards), harvesting and packing of fruit for export.

Apple Fields has 17 orchards and owns 668 hectares of land close to Christchurch, a situation relatively unchanged since 1989. All orchards are irrigated from aquifer sources. Total production for 1993/94 was 1,400,000 cartons, which made Apple Fields the largest apple grower in the country (Kain 1994). Full production is due to occur in 1997 with a forecast crop of 2,500,000 cartons. Over 85 percent of Apple Fields' orchards are planted in premium varieties of which 46 percent are Braeburns (Figure 5.32). Apple Fields is therefore the single largest grower of the new premium apples in New Zealand. The strategy of Apple Fields was based from the beginning on the upper end of the market where premium varieties sell for more than twice the price of commodity varieties in export markets. For Apple Fields, the NZAPMB policy of
Cross-subsidisation of the returns to commodity varieties with the returns from premium varieties impacts directly on the company's profitability and it is not surprising that Apple Fields is in dispute with the Board over this matter. The Board's arguments for cross-subsidisation centre on the same argument as it has for the second-tier levy on new or increased production - Apple Fields, like all other recent entrants to the apple industry, did not contribute to the development of the industry structure, part of which was the development of the new premium varieties (Moran, Blunden and Bradly 1993).

The orchards have a complicated ownership structure. Thirty-six partnerships were originally set-up for the public float of Apple Fields in 1986. Ordinary partnerships were used which allowed the investors to claim up to $10,000 per annum of orchard development expenses against other income. The land for the 36 partnerships was split into 36 titles and each was owned 20 percent by Apple Fields, 40 percent by the participating promoters (whose share was later purchased by Apple Fields) and 40 percent by the investors. Each of these land lots was then leased to the individual ordinary partnerships which are owned 50/50 by Apple Fields and the investors. Investors had to buy a pro-rata amount of shares in Apple Fields at the same time as they invested in the partnerships. The flow of income to Apple Fields from these orchards therefore has four parts. First, income accrues from lease payments by the ordinary partnerships to the land-owning companies. Second, lease payments are made by the ordinary partnerships to Apple Fields for the buildings and machinery used on the orchards. Third, the partnerships must use Canterbury Orchard Services Limited to develop and manage the orchards. Fourth, the partnerships must use Apple Fields Packing Centre Limited to pack their apples.

Figure 5.32 Varietal mix of Apple Fields apple crop

Sources: Annual Reports of Apple Fields Limited; Apple Fields Limited, pers. com.
The company is a significant provider of jobs in the Christchurch area as it employed 130 full-time staff and over 1500 seasonal staff in the 1992/93 year. Apple Fields operate their horticulture division in a highly centralised way both in terms of management and information systems. There are 19 orchard managers. These managers are in turn supervised by three area managers. The company’s full-time orchard staff consist of 19 managers, 16 assistant managers, five fore-persons, one assistant fore-person, 35 leading-hands, 13 unsupervised adults, and 13 supervised adults. This type of pyramidal structure is common in sectors other than agriculture but is uncommon in most businesses involved in agriculture, because most enterprises are smaller than Apple Fields and are based on family farms rather than a corporate model. All orchard personnel are hired through personnel managers based at head office. The gender division of labour in the apple industry identified in EEC and Grocorp also exists in Apple Fields. For example, 94 percent of managers and assistant managers are men and 87 percent of the other permanent workers are also men.

Conclusions on the corporate apple growers

The three corporate apple growers have several attributes in common. All are large scale producers of apples. All three are located on the eastern seaboard of New Zealand in areas favoured for the production of apples. Some doubts remain regarding the biophysical environment of Canterbury - time will ultimately determine whether Canterbury is a prime location or otherwise. Each is a public-listed company with significant assets in other sectors, dairying and property investment for Apple Fields, marketing of a range of other agricultural and manufactured foodstuffs both from New Zealand and Australia for Grocorp, and rural transport, wool scouring and several other activities for EEC. Each is also a fully-integrated operation involving orchard development (re-development in the case of EEC), packing and cool-storage. Lastly, in all three companies, the work relations are distinctly capitalist, that is, based on wage workers, and the ownership of the companies is separate from the workers employed to operate the orchards. All three companies are clearly capitalist enterprises.

Their paths diverge in other ways. Apple Fields is a new company which was set-up to invest specifically in the newly developed premium varieties of apples and to take advantage of the NZAPMB's development of New Zealand as '... the foremost supplier of high quality fresh fruit to the northern hemisphere' ...'... through its emphasis on quality and the promotion of hitherto unknown varieties such as the Braeburn, Gala, Royal Gala and Granny Smith' (Apple Fields' Prospectus 1986:8). EEC and Grocorp entered apple orcharding as companies established already in other industries, primarily kiwifruit for Grocorp and deer farming for EEC. EEC and Grocorp have straightforward integration of their horticultural divisions into the parent corporation while Apple Fields has the most convoluted organisation imaginable. Presumably it is to the advantage of the company as it also currently organises its dairy farming operations in an unrelated but also complicated fashion.
The three case studies discussed above are the only public companies directly involved in apple orcharding. They all entered the industry in the mid-1980s. All are quite different in structure and rationale from the traditional types of enterprise in the industry - family farms. The three most critical factors in this differentiation are their status as capitalist enterprises, their scale of operations, and the degree of their diversification across different industries and sectors. I consider the implications of these factors in the following section.

5.6 SIMPLE COMMODITY PRODUCERS AND CAPITALIST PRODUCERS IN THE APPLE INDUSTRY

The apple industry has a short and uncomplicated agrocommodity chain typical of fresh fruit production. Family-based producers dominate the number of farms. These farms market their export apples cooperatively through the NZAPMB. The export earnings are aggregated and some cross-subsidisation of commodity varieties by premium varieties occurs. This is helping the established growers to maintain a sufficient income as they adjust their orchards towards the newer premium varieties which achieve prices at least double the commodity varieties. This switch to premium varieties was accelerated by the massive expansion of the number of apple orchards because almost all the new orchards planted premium varieties. The predicted export crop for 1995 is three times the quantity of apples exported in 1984. Production increased most dramatically in regions comparatively new to apples - the Bay of Plenty on the east coast of the North Island and several counties on the east coast of the South Island - but these increases were off very small existing bases. The traditional areas for apple production, Hawke's Bay and Nelson Bays, increased by the largest absolute amounts to remain the dominant centres of apple production. The number of apple orchards more than doubled between 1980 and 1994.

The work force increased in a similar fashion and the work relations in the industry remained remarkably unchanged. The proportions of working owners and unpaid family workers were virtually identical in 1984 and in 1990 but there was a shift towards a greater proportion of full-time employees and a decrease in the proportion of casual workers during this period. The approaching maturity of the trees and an increase in the number of capitalist orchards were posited as the reasons for this change. The labour demands of the production system and its biophysical basis help to explain this statement.

Apple production is based on the management of biophysical systems where the supply of atmospheric inputs is irregular and unpredictable. At first glance, these demands appear to favour simple commodity producers, because of the flexibility that is required due to this variability (Mann and Dickinson 1978; Mann 1990). Orchards based on the family are well suited to provide the base labour component and the flexibility that is required of this worker, especially for the general husbandry of the orchard, and specifically for the spraying program. Owner-operators are also able to supply most of the labour in the development years of the
orchards but as the trees mature and the crop grows steadily heavier, workers additional to the family are required. The uneven demand for labour in the seasonally-specific tasks of pruning and especially picking require the addition of hired workers as these tasks must be carried-out in a short time-frame. In addition, owner-operators can supply only a limited amount of the total labour requirement for the orchard due to the number of workers required during these busy periods. Workers must be hired from the labour market and owner-operators have no advantages over capitalist enterprises in this respect. Accordingly, apple growing is possibly more amenable to capitalist production than are other farming systems.

The evidence assembled through my fieldwork tends to support this contention. Here, I first make the argument that apple growers can be differentiated into either simple commodity producers or capitalist producers, then I return to the idea of the amenability of apple growing to capitalist production. The two most obvious differentiations between the corporate apple producers and those in the Hawke's Bay sample are the scale at which each group operates and the use or non-use of family labour. There is also a clear differentiation based on the legal status and the types of worker used within the Hawke's Bay sample, between those orchards where there is an owner-operating family (or single person) and the partnerships of private investors. Also included in this latter group are those families which own their orchard purely as an investment and do not participate in the management of the orchards. Apart from the scale of the orchards, the partnerships of private investors and the large corporates share the same form of production, that is, ownership of the means of production is separate from the provision of labour. These enterprises can be clearly specified as capitalist producers of apples. In contrast, for the orchards owned and operated by families in Hawke's Bay, the ownership of the means of production and the provision of labour are by the same people. These are simple commodity producers.

Second, the larger scale of operations is an important factor in making capitalist enterprises more able to compete with the simple commodity producers of this industry. Indeed, it is a prerequisite to the successful entry to any agricultural industry by capitalist enterprises (Mooney 1983; Holland and Carvalho 1985; Fitzsimmons 1986; Smith 1986; Mann 1990). In the larger orchards there is more scope to use wage workers efficiently. EEC, Grocorp and Apple Fields all have their own efficient and up-to-date pack-houses which gives them further possibilities for in-house efficiencies. In addition, each company is diversified, that is, each company is involved in other sectors which offers protection in years such as 1992/93 when profits from apple growing are low. Finally, each company is large enough to obtain bank borrowing or internal funding which more than offsets any of the advantages of family finance which accrues to simple commodity producers. For the smaller capitalist enterprises, the partnerships of private investors, the only advantages available to them were the tax breaks for horticultural investment which existed during the 1980s. On the basis of all the measures used here, the scale of these orchards is too small for them to succeed in the long run.
In some ways, the structure of the industry remains essentially the same as it is still dominated by family farmers, the NZAPMB retains its export monopoly, and government also legislated so that the 1986 Commerce Act no longer over-ruled the Apple and Pear Marketing Act 1971. This retained effectively much of the status quo. But some changes have occurred, pressure for change still remains, and these pressures may be exacerbated by the rapidly increasing export crop which the NZAPMB will have to deal with. To date, the only dilution of the powers of the NZAPMB is the deregulation of the domestic market. More important for the structure of the industry is the emergence of Apple Fields, Grocorp and EEC. The presence of these large scale corporate growers means that the capitalist form of production is now firmly established in this industry where previously it was dominated by simple commodity producers.

5.7 PROJECTED INCREASES IN APPLE PRODUCTION AND DIFFERENT FORMS OF PRODUCTION

The export crop is expected to expand significantly in the next few years as the trees planted during the late 1980s and early 1990s mature. In Hawke’s Bay the 1992/93 season was the first time since 1986 that a surplus of apple seedlings were freely available at nurseries. Most of the apple orchards in Hawke’s Bay are not yet at their potential level of production. For the sample orchards in Hawke’s Bay this is both in terms of total production and optimal varietal mix. In contrast, Grocorp in Hawke’s Bay and Apple Fields in Canterbury planted only premium varieties and are waiting only for the full potential to be reached when their trees mature. EEC’s recent expansion to become a large apple producer was through the purchase of eight existing orchards in Hawke’s Bay. EEC’s varietal mix is therefore closer to that of the sample and includes a substantial proportion of Granny Smith, now considered a commodity variety (Figure 5.33).

Like EEC, many of the orchards in the sample are gradually replacing older commodity varieties with premium varieties, by grafting and replacing trees. Most of these orchards therefore have Gala, Granny Smith and various other traditional Hawke’s Bay varieties as part of their orchard mix. This gradual replacement of commodity varieties with premium varieties is demonstrated in Figure 5.34 which divides the sample orchards into those established before 1985 and those established after 1984. The relative proportions of the five main apple varieties in each orchard demonstrate the transition that is occurring: Royal Gala, Braeburn and Fuji are more dominant in the orchards developed since 1984 while Granny Smith and Gala are found to a greater extent in the orchards established before 1985. The cross-subsidisation of commodity varieties by premium varieties by the NZAPMB makes this process of adjustment easier for the older orchards, virtually all of which are simple commodity producers. But it also provides new entrants to the industry, who have planted only premium varieties, with grounds for complaint against the cross-subsidisation of commodity varieties by premium varieties. Most vocal among these is Apple Fields.
Figure 5.33  Varietal mix of population components

Sources: Annual Reports of Apple Fields Limited, Eastern Equities Limited and Grocorp Pacific Limited; Blunden; 1993/94 postal questionnaire to apple growers in Hawke's Bay.

Note: None of these percentages add to 100 percent as all the companies or groups of producers have other varieties. This is particularly the case in the sample and the population - (sample + Grocorp + EEC). The varieties graphed here are those which consistently make-up more than five percent of the crop.

In Figure 5.35, the orchards are differentiated by the number of orchards predicted to be achieving maximum production in each year rather than being stratified by production data. Using these criteria, increases in production will peak in 1998. If the predictions of the orchardists in the sample plus Grocorp and EEC (comparing their 1993 estimates with their maximum predictions) are applied to the population of Hawke's Bay apple growers, then the potential crop in 1998 is roughly 75 percent higher than for 1993. This is likely to be the level of increase for the whole country. The export crop will be increasingly tilted towards premium varieties and will continue to expand every year up to and past the millennium. The increased production presents two potential difficulties for growers. Most of the increased crop will have to be sold overseas in markets which are already made difficult by increasing global production. The big advantage that New Zealand growers have at the moment is the high and increasing proportion of premium apples in the national crop. Other countries are also increasing the relative proportions of these varieties. This scenario implies a continuing weakness in farm-gate returns, probably nearer to the 1993 return than the 1992.
Figure 5.34  Orchard establishment dates and the mix of apple varieties

Variety of apple

- Royal gala
- Harold red
- Braeburn
- Fuji
- Granny smith
- Gala

Relative proportion of total sample orchards' 1993 crop estimates

Source: Blunden; 1993/94 postal questionnaire to apple growers in Hawke's Bay.

Figure 5.35  Year of predicted maximum production: Hawke's Bay sample

Number of orchards

Source: Blunden; 1993/94 postal questionnaire of apple growers in Hawke's Bay.

Note: This excludes EEC and Grocorp.
The demand for orchard labour will increase significantly as the crop expands. The nature of this demand is the same for both forms of production, a demand for non-family employees paid by either wages, salary or contract and at very particular times of the year. Family orchards from the Hawke's Bay sample already appear to be fully utilising available family labour - the biggest change to their orchard operations since 1984 was to increase the amount of employed labour as their crop increased. There are already some signs that labour recruitment for horticulture in Hawke's Bay is approaching its easily-achievable peak (pers. com. EEC and Grocorp), and that more formal recruitment and training programs will have to be developed to provide for the increased labour demand in the near future. The implication of this are possibly increased cost pressures on growers as wage rates may be pushed-up due to increased labour demand. The main difficulty in labour provision is the lumpy nature of the demand. Going back to Figure 5.1, it is clear that the problematic period of the production cycle is the harvest season from early February to the middle of May. The problems of generating a labour force for only this period of the year are significant in dealing with this expected higher labour demand.

For Apple Fields, being located near Christchurch offers some relief from the second pressure. Production for this company is forecast to peak in 1996 (Apple Fields Annual Reports). Apple Fields possibly does not face the same labour supply constraints because of the proximity of its orchards to Christchurch and the university campuses of Canterbury and Lincoln. The company is introducing training and recruitment programs which will help ensure a good future supply of workers. The possible marketing and over-supply problems discussed above are another justification for Apple Fields in its efforts to market its own export apples, and this reinforces its arguments against the cross-subsidisation policies of the NZAPMB. As part of this integrated strategy, Apple Fields developed its own brand name, Crisp 'n' Juicy, received ISO 9002 quality assurance for its packing and coolstore operation and is attempting to qualify for ISO 9002 quality assurance for its orchards. Under the Apple Fields' strategy, the company wants to grow and market its own quality-assured and therefore quality-differentiated brand of apples in both the export and domestic markets, hopefully achieving a premium price in both and securing its future profitability. It is now easier to understand the reasons why Apple Fields is seeking to end the export monopoly of the NZAPMB, given these production and labour supply forecasts. The company appears better placed than others to weather the flow of increased production, but significantly, it does depend upon reform of the NZAPMB export monopoly.

This differentiation can be likened to a new round of competition among previously undifferentiated producers. The move by Apple Fields to adopt ISO 9002 may force other growers and cool-stores to do the same just to compete. The scale of Apple Fields' operations gives the company some advantages over smaller producers in this regard. Those that cannot compete could be classified as laggard enterprises while Apple Fields remains as a forward-thinking capitalist producer. Alternatively, the usefulness of the ISO 9002 certification could also be questioned as the NZAPMB has its own high standards regarding fruit quality and
packing through which it has differentiated New Zealand apples in its export markets for many years. These systems were instituted by the NZAPMB to guarantee the quality of fresh apples in these markets. The policy has worked, according to the chief executive officer of the NZAPMB, because the NZAPMB supplies 24 percent of the volume of apples from the southern hemisphere to the European Union but receives 30 percent of the value, and prices for New Zealand apples average 29 percent above the market returns received by other countries in the southern hemisphere (Pope 1994). So Apple Fields is possibly not actually doing anything different other than just saying that their product is better.

The two trends of increased production and increased demand for labour point towards almost all growers being caught between the twin pincers of increased costs of production and decreased real returns. It also highlights the strategies of Apple Fields as being sound and well developed in terms of the long run development of the industry. But the prospects for the apple industry generally do not look very bright, given the current price trend and the scenario discussed above. The big question for this research is whether or not the outcome is differential by form of production. The impact of increased production and increased demand for labour may be similar for both forms of production as both face the same marketing constraints and the same increases in their costs of production. However, each form of production has available alternative strategies, most of which are distinctive to the particular form of production. Even if the strategies are common to both, each form of production has a different way of using these options. Because each form of production has a conceptually different way of handling the demands of the production system, these operational strategies are quite different.

Several adjustment strategies are already identifiable from the above case studies of capitalist producers. The strategy of Apple Fields is an individualist solution which relies ultimately on the removal of the NZAPMB monopoly on export marketing of apples. This requires action by central government. The importance of this strategy to Apple Fields explains the expenditure of millions of dollars by the company in the last five years in pursuit of this objective. Horticulture represents an important segment of Apple Fields’s assets, turnover and profits but the company also has extensive interests in dairy farming which offers a counter-cyclical investment strategy.

In its 1993 Annual Report, Grocorp discussed the need to diversify away from its concentration on apple growing. The company is already involved in squash and asparagus production for export. Family producers supply Grocorp under contract and Grocorp markets the commodity, mostly in Japan. In addition, it continues to develop the international marketing of a quite diverse range of agricultural products and some manufactured foodstuffs. Both Apple Fields and Grocorp recognise that the industry may be going to be less profitable even though both companies have not reached full production.
The third capitalist apple producer, EEC, timed its expansion into apples badly. It purchased Limnos Investments and a high technology packing plant in a season which produced the lowest real prices for apples in recent times. It also has the added difficulty of owning orchards with significant proportions of commodity varieties. On the other hand, it is a diversified regionally-based company with major interests in transport (related to agriculture and general cartage) and downstream agricultural processing. This provides significant scope for the company to develop counter-cyclical strategies.

Even though some of the same strategies, such as diversification, are available to simple commodity producers as they are to capitalist producers, the basis for using them is quite different. Any decision to diversify by simple commodity producers must occur within the internal relations of the family. For the family, raising finance for any purpose involves the financial well-being of the family and the enterprise, not just the enterprise. In contrast, the motive for capitalist producers is to maintain or increase profits (or reduce losses), and provision of finance for diversification can take place in a range of different ways, for example, through banks, intra-company lending, and share issues.

The redeployment of household labour is another strategy which is available to simple commodity producers, although this is constrained to a large extent by the current full utilisation of family labour discovered in the orchards in the sample from Hawke’s Bay. Family members can simply work longer hours for the same or even lower returns. This possibility brings analyses to the fore such as those by Mooney (1983, 1986, 1988) which conclude that family farmers are no more than propertied labourers. Pluriactivity was a limited strategy for the orchards in this sample due to the already high utilisation of family labour, yet even with this low level of pluriactivity, the income derived from pluriactive work was important to the household and enterprise in most cases. Pluriactivity would be a more likely response in the apple orchards which were excluded from this sample because they derived less than 50 percent of farm income from apples.

The bases of the strategies identified above derive from the essential characteristics of each form of production (Figure 3.3). For the large-scale capitalist producers, their involvement in more than one industry and the large size of the enterprises allows these companies to adopt strategies which focus on diversification and involvement in counter-cyclical industries, and related to this, the ability to cross-subsidise sectors within each enterprise for limited periods. In contrast, the strategies for simple commodity producers centre on their ability to adjust household consumption, to alter the deployment of family labour, as well as other options such as diversification and drawing on household savings. The group which has the least number of options available are the small capitalist producers - the partnerships of private investors in the Hawke’s Bay sample. These partnerships were formed to invest in the apple industry and in many cases to take advantage of tax write-offs against the orchard development and management
costs. As such, their purpose is to grow apples and there are very limited avenues for diversification or other coping strategies. The investors are tied into relatively inflexible production and marketing scenarios which cannot return a profit if apple prices remain anywhere near present levels.

The large scale of the corporate producers gives them much more scope if and when the NZAPMB loses its monopoly powers to handle the entire export crop. Apple Fields and Grocorp are particularly well-placed to enter export markets and in 1994 are pursuing this course in the hope of achieving permission from the NZAPMB for niche marketing. Their size, their expertise, and in Grocorp's case, its connections to the Japanese market, suggest that these companies will be able to succeed.